



Best Barns USA Assembly Book Revised February 21, 2023



the Mansfield - R **12' x 12'**

Manufactured by RBS Holdings, LLC

205 Arlington Drive

Greenville, PA 16125

This manual is copyrighted. Under the copyright laws, this manual may not be copied, in whole or in part, without consent from

RBS Holdings, LLC

© Copyright 2022

IMPORTANT INFORMATION ABOUT YOUR KIT

Thank you for purchasing our kit. Please read the following information before beginning construction. Always check with your local HOA or building code office for any requirements or restrictions.

Floor: Wood flooring is sold optionally. You may choose to build your own or pour a cement pad.

Always wear safety glasses when cutting or nailing!

Tools Required:	Hand or Circular Saw	Level	Safety Glasses
	Cordless Drill	Measuring Tape	Dust Mask
	Hammer	6'-8' Ladder(s)	Phillips Screwdriver
	Pencil		Framing Square

Additional Materials - **Not included in kit:**

Windows are purchased separately

Required: Shingles or metal roofing, Drip Edge, Roofing Nails or Screws, Paint

Optional: Caulk, Ridge Vent

Terminology:

Square - Confirm corners are at 90 degrees

Plumb - Confirm walls and trusses are straight vertically

Wall Plate - Top and bottom 2x4s used to frame walls

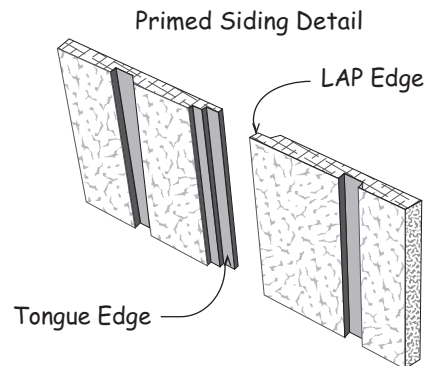
Tie Plate - 2x4s connecting wall sections together

Header - Spans top of door opening

OSB - Oriented Strand Board

LAP - Edge of siding that overlaps

Tongue - Edge of siding that is overlapped



Organize:

Unpack all items & organize according to size and type. This will make items easier to find when instructed.

Review the parts list on the back page. Should there be missing items or sub-par material contact Best Barns Customer Service.

DO NOT discard any material including the pallet until your project is complete.

Assembly:

Review all instructions before you begin. Please follow steps carefully and in sequence for successful results.

If you have any questions we are happy to assist you. Please contact us at:

800-245-1577 - Mon - Fri 8AM - 5PM EST

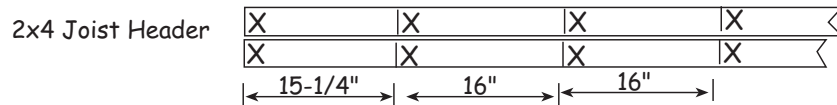
724-866-4357 - After hours and weekends

Email - questions@barnkits.com

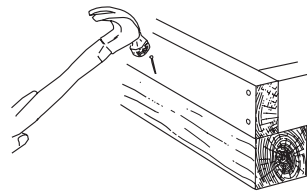
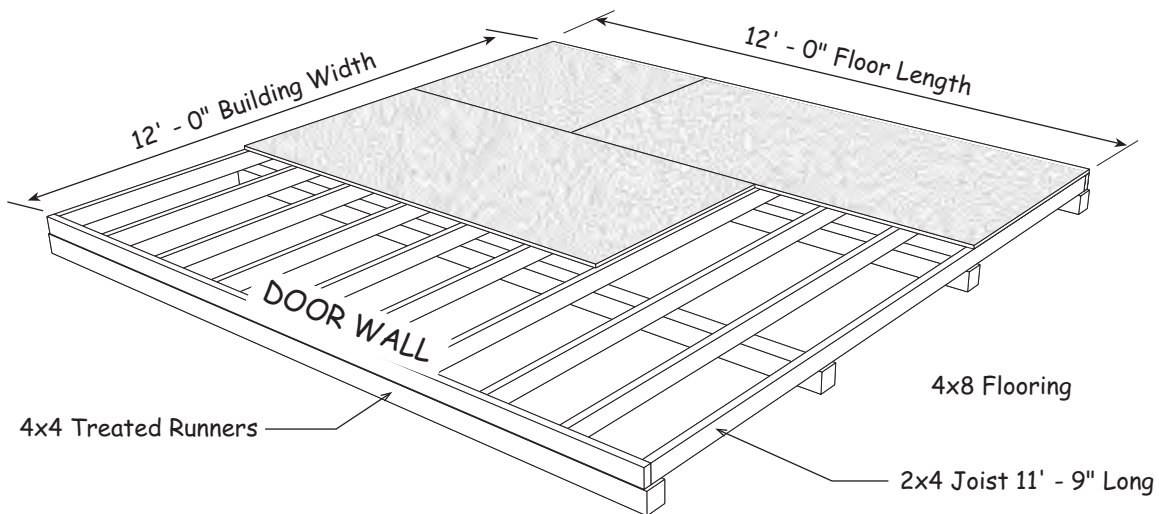
Constructing Details for Deluxe Floor System

Shown below is a typical wood floor. Depending on your area, the construction may have to be changed to meet local codes. When using a concrete slab, use the same overall foundation measurements. Install foam sill sealer as a moisture barrier between the concrete and the wall plates. Foam sill sealer can be purchased at home centers in rolls 3-1/2" or wider.

1. Cut (2) two 2x4-12' joist headers to a length of 12' - 0". Layout for 16" on center spacing. 'X' marks where floor joist will be placed.



2. Cut 2x4-12' floor joist to 11'-9". Treated lumber may be thicker than 1-1/2". Take this into account when cutting the length of floor joists. Shorten joist measurements if necessary to obtain 12'-0" building width.



To keep 2x4 frame from moving, toe nail to 4x4.

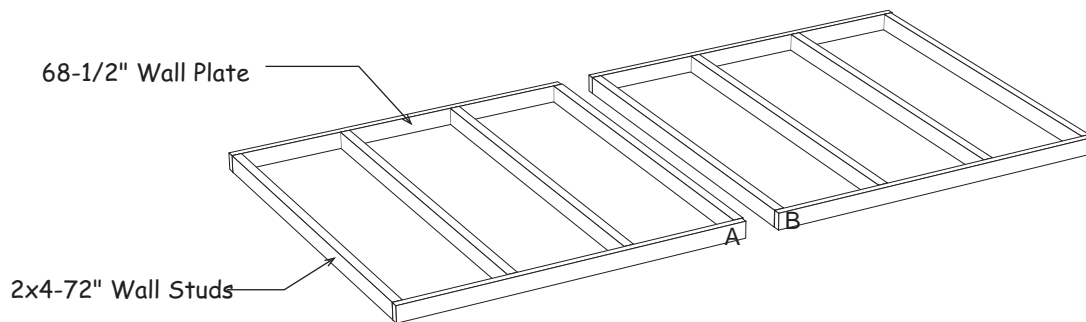
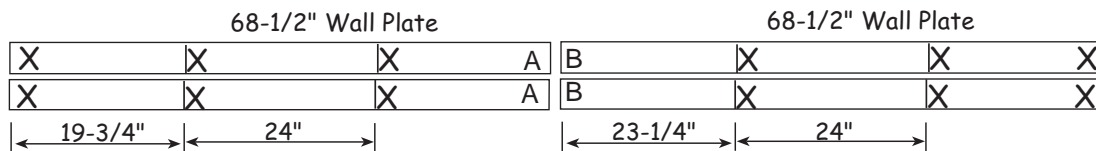
Material Description	12' x 12' shed
2x4 Joist Headers	2 pcs. 12'
2x4 Floor Joist	10 pcs. 12'
4x4 Treated Runners	4 pcs. 12'
Flooring 5/8" or 3/4"	5 pcs. 4x8
Screw Floor Nails	2 lbs. 8d
Galv. Box Nails	1 lb. 16d

It is important that the floor be level and square. Before nailing the flooring, measure the floor diagonally (corner to corner). Then measure the opposite corners. These measurements will be the same if the floor is square.

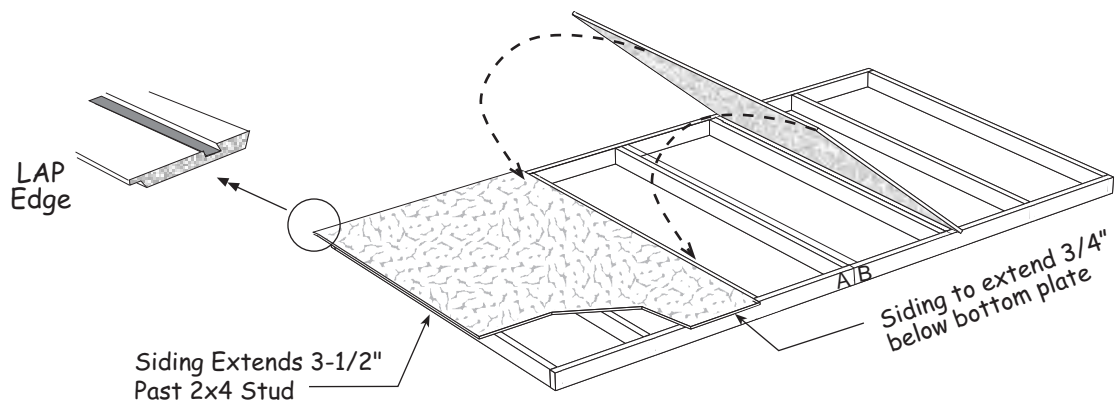
Step 1 Assemble 12' Back Wall

 **Do not discard any material until construction is complete. Including short blocks of 2x4s.**

1. Position 2x4-68-1/2" boards together and indicate with 'X' marks, where the wall studs will be located. Mark the ends that will butt together with the letters 'A' and 'B'.

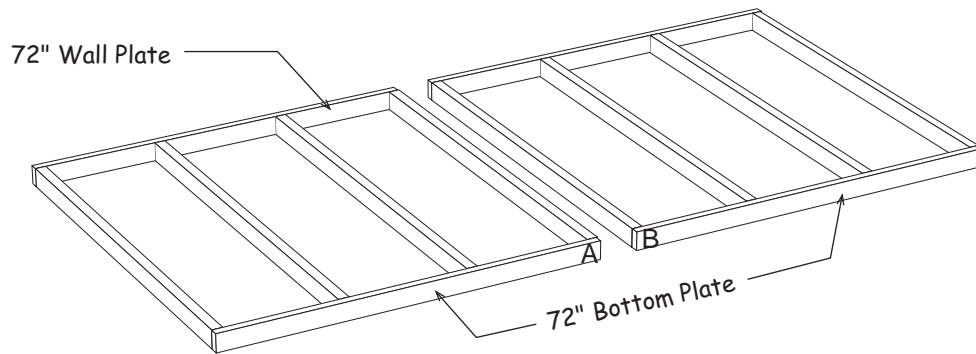
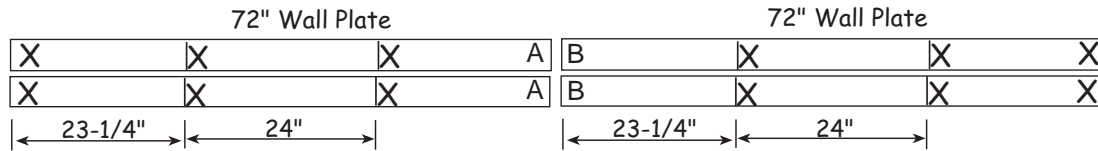


2. Install (8) eight 72" wall studs between the top and bottom plates. Use 10d sinkers, (2) two nails at each stud end. Nail both wall frames together with 10d sinkers.
3. Square wall frame. *Measure diagonally (corner to corner). The measurements will be the same when the wall is square.*
4. Install the first siding panel with the 'LAP' edge extending 3-1/2" past the wall frame and 3/4" below bottom plate. Use 6d galv. nails spaced 8" apart. Tip: Use 3/4" trim board as a gauge.
5. Install (2) two more siding panels. Cut the last panel to extend 3-1/2" beyond the wall frame.

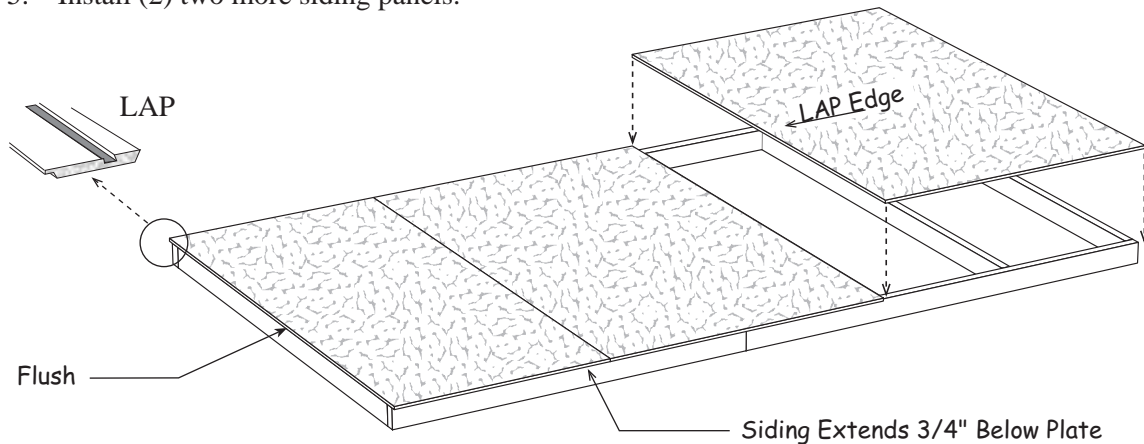


Step 2 Assemble 12' Long Sidewalls

1. Gather (4) four 2x4-72" boards and position together then indicate with 'X' mark where the wall studs will be located. Mark the ends that will butt together with the letters 'A' and 'B'.




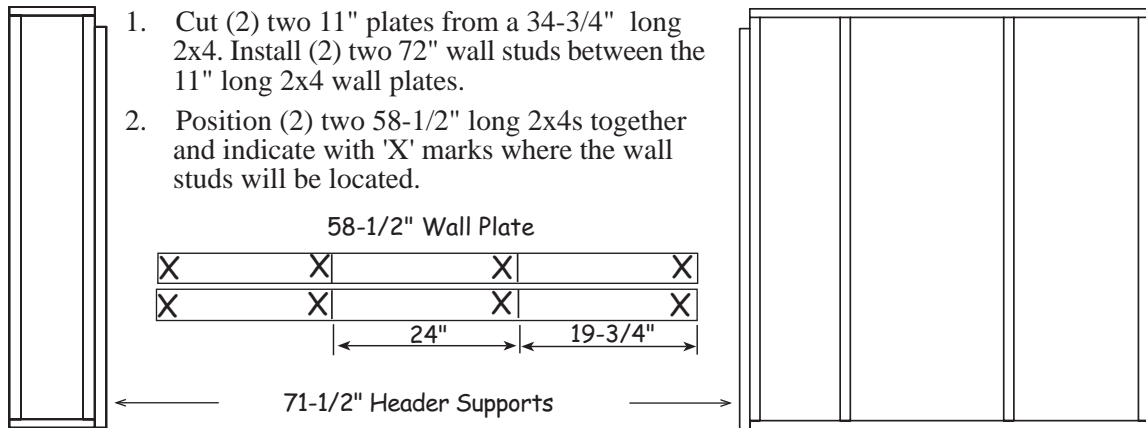
2. Install (8) eight 72" wall studs between the top and bottom plates. Nail both wall frames together. Use 10d sinkers.
3. Square wall frame.
4. Install the first siding panel with the 'LAP' edge flush with the end of the wall and extending 3/4" below the bottom plate.
5. Install (2) two more siding panels.



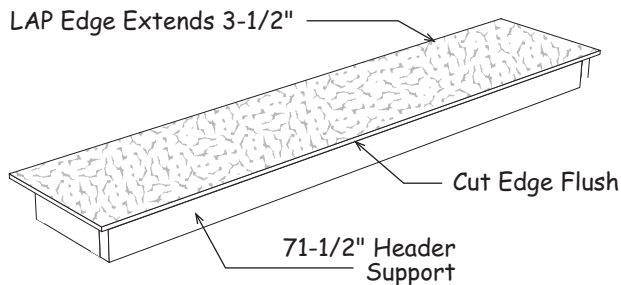
6. Repeat to assemble another sidewall.

Step 3 Assemble Door Wall - Offset Doors


 **To position the door opening in the center of the wall, go to Step 4. To position the door opening on the right side of the front wall, flip the walls and apply siding to the opposite side of the wall frames.**



3. Install (4) four 72" wall studs between (2) two 58-1/2" long 2x4 wall plates
4. Gather (2) two 2x4-72" 2x4s. Cut each board to 71-1/2" and install as a header support on each wall frame flush with bottom plate. Use 10d sinkers.

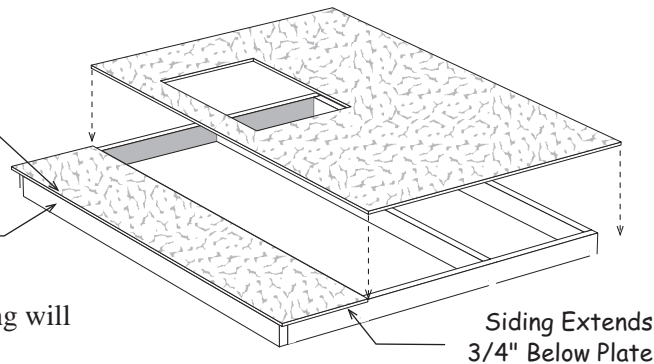


5. Select a 16" wide siding panel with a 'LAP' edge. Install cut edge flush with header support. The 'LAP' edge will extend 3-1/2" beyond the wall frame. Bottom edge will be 3/4" below the bottom plate.

 If installing the optional window you can cut the opening in the siding. Instructions are packed in window box.

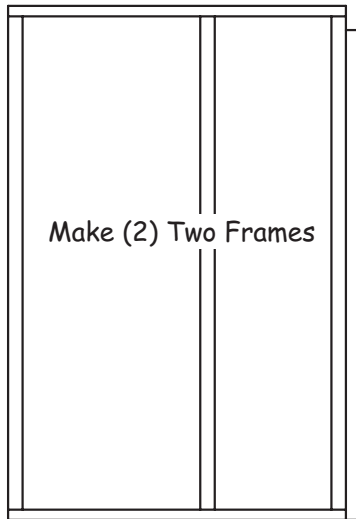
6. Install a 16" siding panel with a tongue edge. Cut edge will be flush with the header support.

71-1/2" Header Support

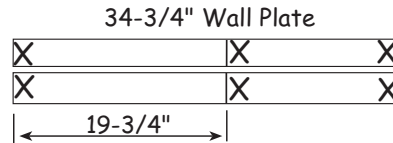


7. Install the last siding panel. The siding will extend 3-1/2" past the wall frame.

Step 4 Assemble Door Wall - Doors Centered



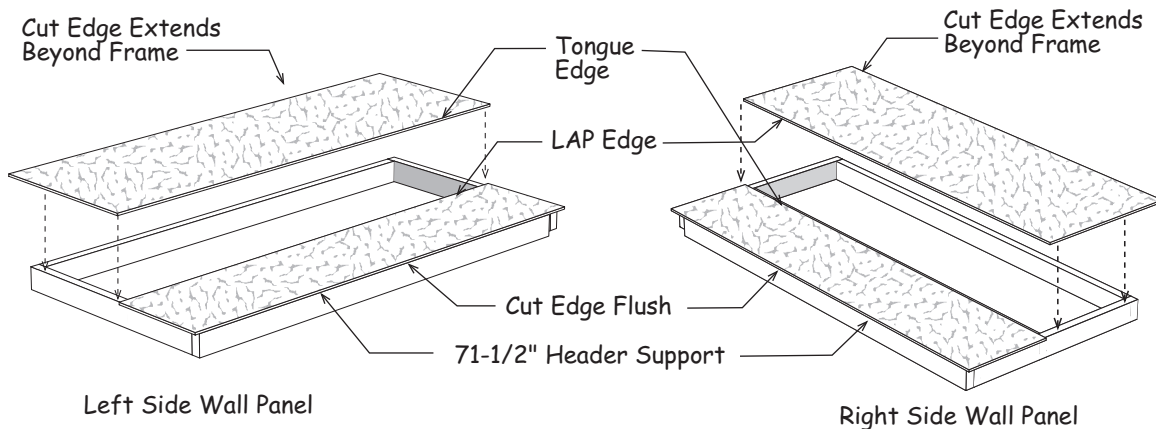
1. Locate (2) two 34-3/4" long 2x4s and position them together. Indicate with 'X' marks where studs will be located..



2. Install (3) three 72" wall studs between the 34-3/4" wall plates.
3. Locate (1) one 2x4-72" and cut to 71-1/2". Install as a header support on right side as shown and flush with bottom plate. Use 10d sinkers.
4. Locate (2) two 58-1/2" 2x4s and cut (1) one 34-3/4" plates from each. Repeat steps 2 and 3 to assemble another wall frame.

71-1/2" Header Support

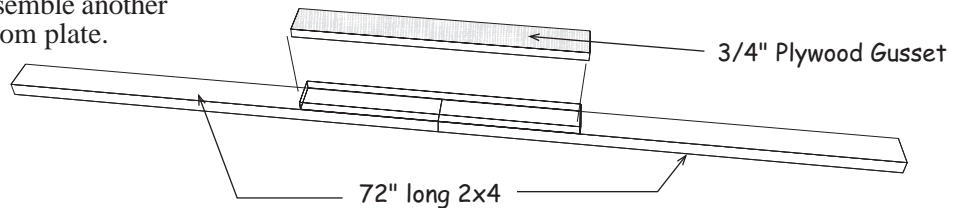
5. Select one frame and position so header support is on right.
6. Locate a 16" wide siding panel with a 'LAP' edge. Install this panel with the cut edge flush with the 2x4 header support. Bottom edge should be 3/4" below bottom plate. Only nail along cut edge until next panel is installed.
7. Cut a 48-3/4" wide siding panel in half lengthways.
8. Select cut panel with the 'Tongue' edge. Install this panel so cut edge extends 3-1/2" beyond the end of the frame and tongue edge under the 16" panel. The siding should extend 3/4" below the bottom plate. Nail both siding panels to frame.



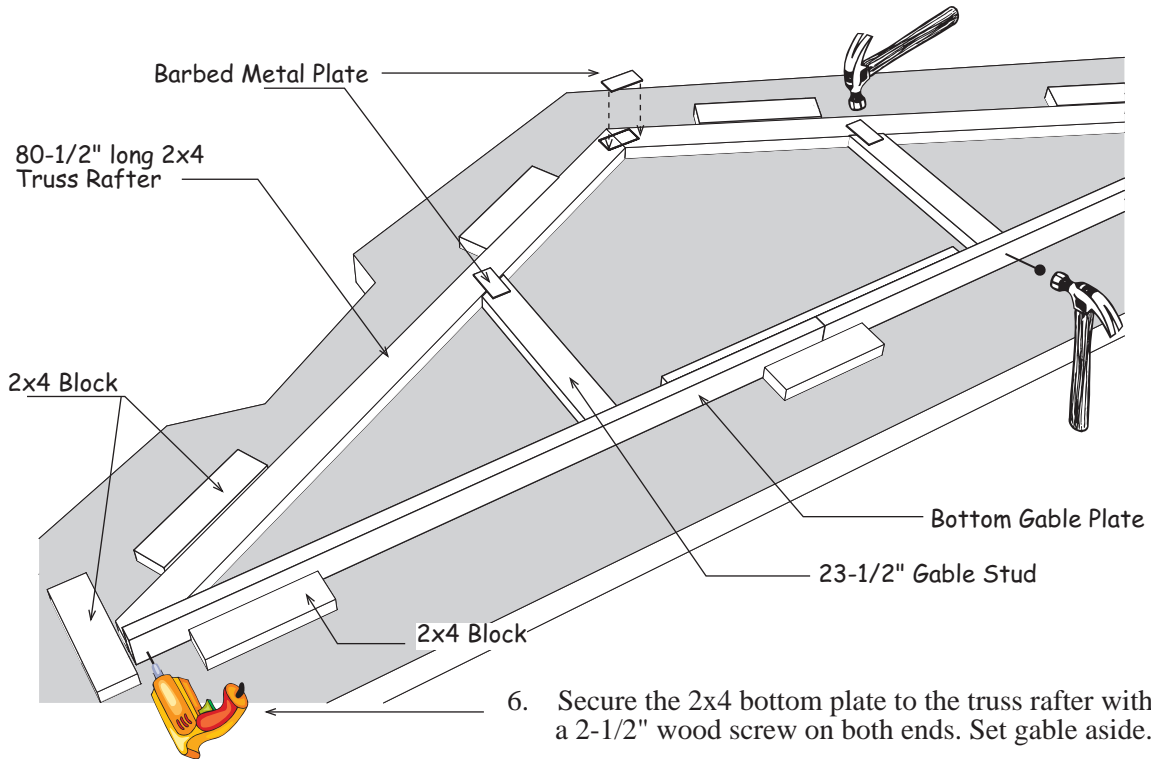
7. Locate a 16" wide siding panel with a 'Tongue' edge and the remaining 24" wide cut panel. Install these on remaining frame. **Make sure header support is oriented to the left.**

Step 5 Assemble Roof Gables

1. Butt (2) two 72" long 2x4s together and secure them with a 3-1/2" x 31-3/4" long plywood gusset across the top where they butt together. Use glue and (12) twelve 6d common nails. This will be used as the bottom plate on the roof gables.
2. Repeat to assemble another 12' long bottom plate.



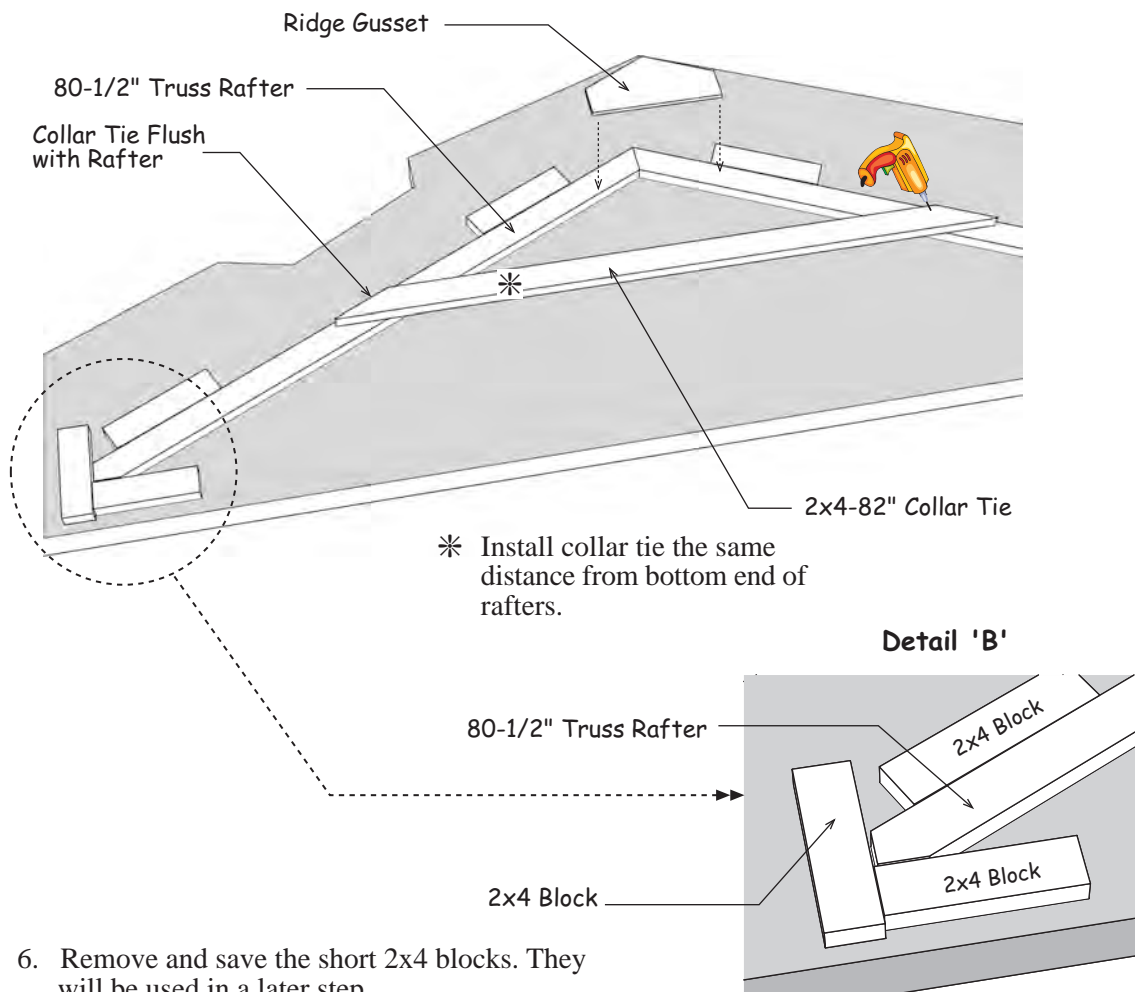
3. Place the bottom gable plate on the floor along with (2) two 80-1/2" long 2x4 truss rafters as shown below. Bottom plate will be on edge. There are short 2x4s, *that may have an angle on one end*, supplied in the kit. Use these to hold the truss rafter and bottom gable plate together by temporarily screwing the blocks to the floor using 2-1/2" screws. This will ensure that the gable frames and the trusses, *assembled next*, are identical.
4. Secure the top of the truss rafters together with a 1"x4" barbed metal drive-on plate.
5. Install (2) two 23-1/2" gable studs with angle cut at one end. Nail through the bottom plate with 10d sinkers and secure the top with barbed metal drive-on plates.



6. Secure the 2x4 bottom plate to the truss rafter with a 2-1/2" wood screw on both ends. Set gable aside.
7. Repeat steps 3-6 to assemble another gable.

Step 6 Assemble Roof Trusses

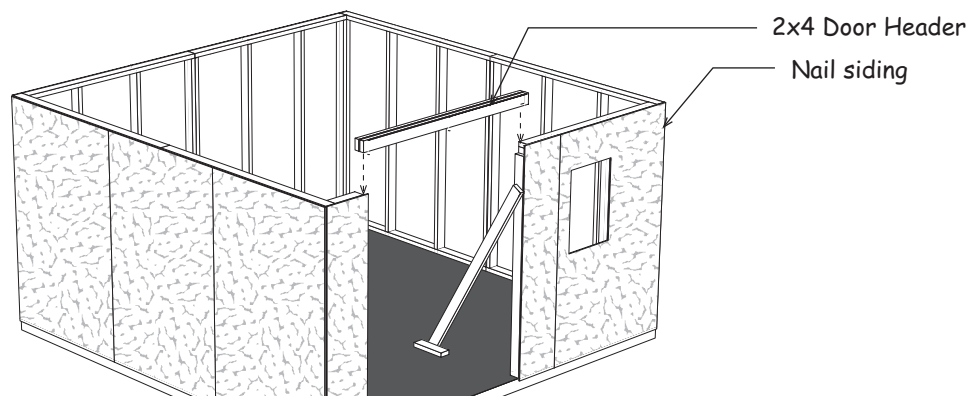
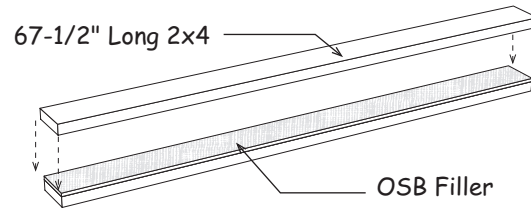
1. Place (2) two 80-1/2" long 2x4 truss rafters and a 82" long collar tie together as shown below. The collar tie has an angle cut on both ends. Reposition the lower 2x4 blocks to hold the truss rafters in place. See **'Detail B'**.
2. Secure the 2x4 truss rafters at the top with a 8" x 16" wood gusset. Apply wood glue between the 2x4s and the gusset. Nail the gusset to the 2x4s with (14) fourteen 6d common nails,
3. Secure the 2x4 collar tie with (4) four 3" long wood screws at each end. Tip: Pre-drill holes with an 1/8" bit to prevent wood splitting at ends.
4. Turn this truss over and apply a wood gusset to the opposite side at the ridge.
5. Repeat to assemble (4) four more trusses.



6. Remove and save the short 2x4 blocks. They will be used in a later step.

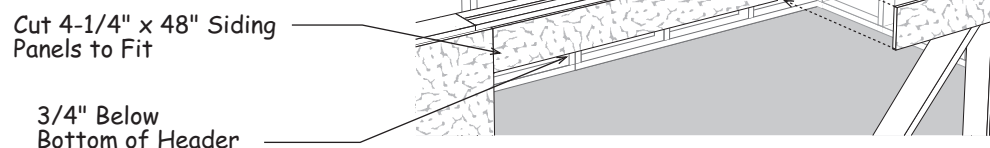
Step 7 Set Walls

1. Gather (2) two 67-1/2" long 2x4 boards and a 3-1/4" x 67-1/4" OSB filler panel. Glue both sides of OSB. Nail header together from both sides with 10d sinkers staggered 6" apart.
2. Erect wall panels. **IMPORTANT make sure walls are plumb and square.** Secure together at the corners using (4) four 10d sinkers per corner.
3. Nail along siding edge where it overlaps front and back walls at corners.
4. Install the 2x4 door header between the front wall panels. Nail through the wall stud into the ends of the header. Toenail into the top wall plates.
5. Temporarily install (2) two 2x4-72" boards at both sides of the door opening to hold the wall straight. These boards will be used later for tie plates.
6. Nail all wall panels to the floor through the bottom plate. Space 10d sinkers 24" apart.




Drawing shows a building with the doors offset.

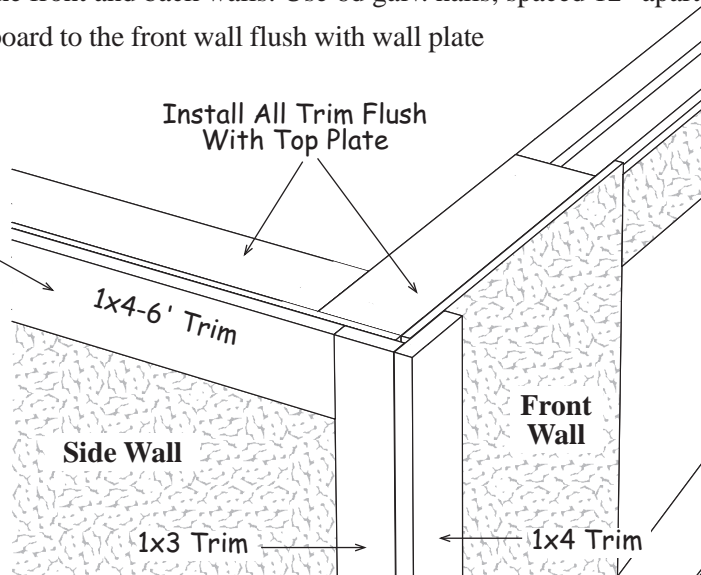
7. Install (2) two 4-1/4" siding panels over the door header. The siding should extend 3/4" below the door header. Cut length to fit. Wall trim, installed later, will hide where the siding butts the front wall siding.



Step 8 Install Trim

 *Tip; Paint the siding and trim boards before installing the trim.*

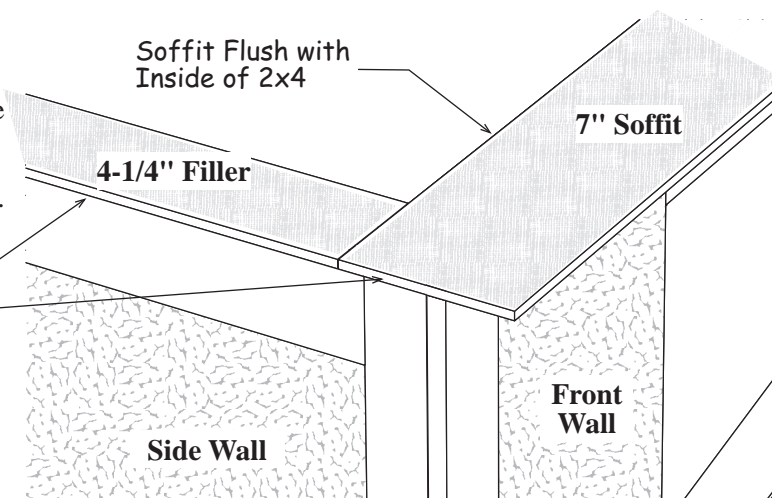
1. Install (2) two 75-3/4" long 1x3 corner trim boards to the side wall flush with the top 2x4 wall plate and flush with siding on the front and back walls. Use 6d galv. nails, spaced 12" apart.
2. Install a 75-3/4" long 1x4 trim board to the front wall flush with wall plate and with 1x3 trim.
3. Butt a 1x4-6' board against 1x4 corner trim and flush with top plate. Nail along top with 6d galv. nails.
4. Cut a second 1x4-6' trim board to finish at opposite corner.
5. Install trim on the opposite side wall and corner trim on front and back walls.



Step 9 Install Primed Soffit and Filler

1. Locate (1) one 7" wide x 48-3/4" long siding panel and cut in half. Install one half over the front wall with the primed side facing down. Cut edges should be flush with the inside of the top 2x4 wall plate and flush with the trim on the side wall. Tack the soffit with a couple 6d common nails. Installing 2x4 tie plates in a later step will provide more nailing.
2. Install (3) three more soffit panels cutting the last panel flush with the side wall trim.
3. Repeat to install 7" soffit boards on the back wall.
4. Install (3) three 4-1/4" wide x 48-3/4" filler panels over the side walls. Install the filler flush with the 1x4 trim. Cut last filler to fit

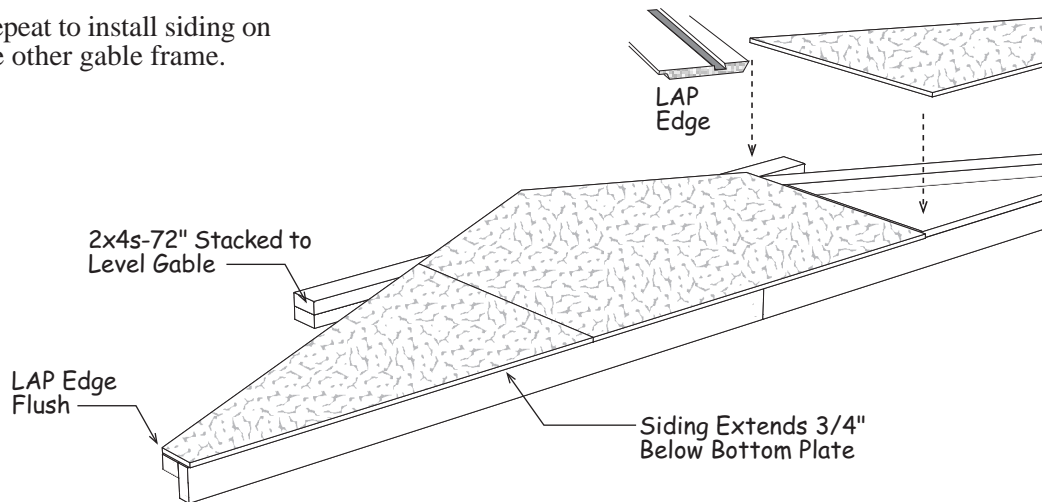
Soffit and Filler Flush with Side Wall Trim



5. Repeat to install filler on the opposite wall.

Step 10 Install Siding on Gables

1. Select one of the gable frames. Turn the gable over so bottom plate is on edge on floor. Support gable studs and rafters with (2) two 2x4-72" boards stacked. This will give you a solid surface when nailing siding.
2. Install left gable siding panel with the 'LAP' edge flush with the end of of bottom plate. Use 6d galv. nails across the top of the 2x4 frame and gable studs. Use 6d galv. nails across the bottom plate. The siding will extend 3/4" below the bottom 2x4.
3. Install center and right panels. Cut last panel flush with end of bottom plate.
4. Repeat to install siding on the other gable frame.

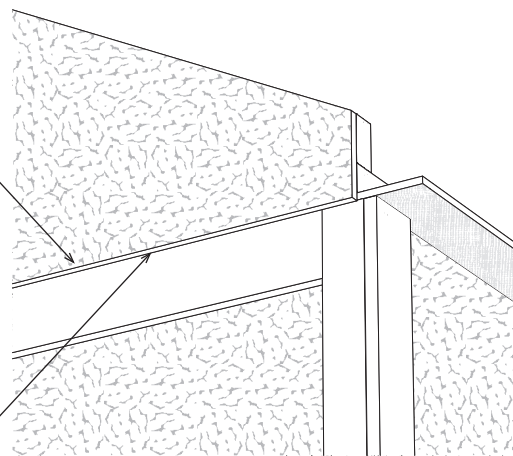


Step 11 Install Gables

1. Install a gable on the left sidewall. The gable siding will extend over the 1x4 trim on the lower wall. Secure gable to wall by nailing through the gable plate with 10d sinkers. Nail siding along the 1x4 trim board with 6d galv. nails.

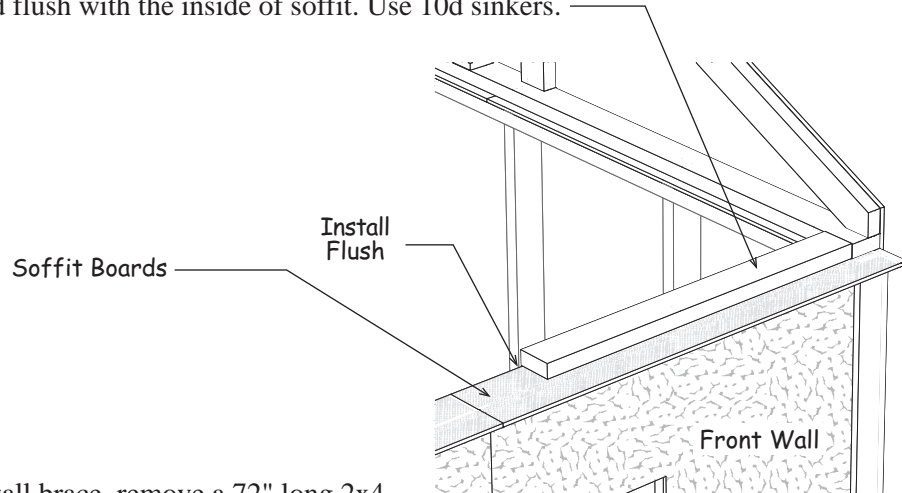
2. Install gable on the opposite side wall.

Important: Bottom edge of siding extends over 1x4 trim. Paint this edge.

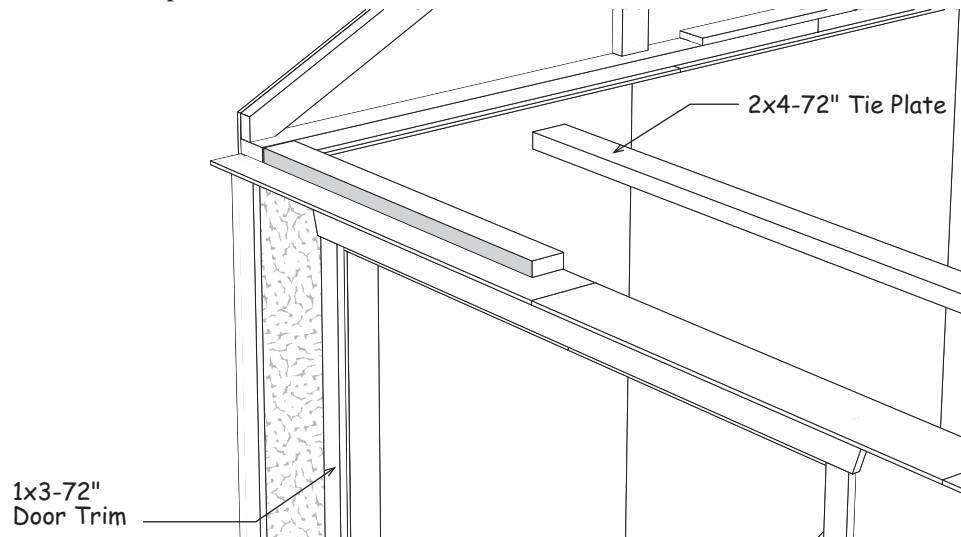


Step 12 Install 2x4 Tie Plates and Door Trim

1. Cut a 2x4-72" in half and install one 3' piece over the front wall, against the gable plate and flush with the inside of soffit. Use 10d sinkers.



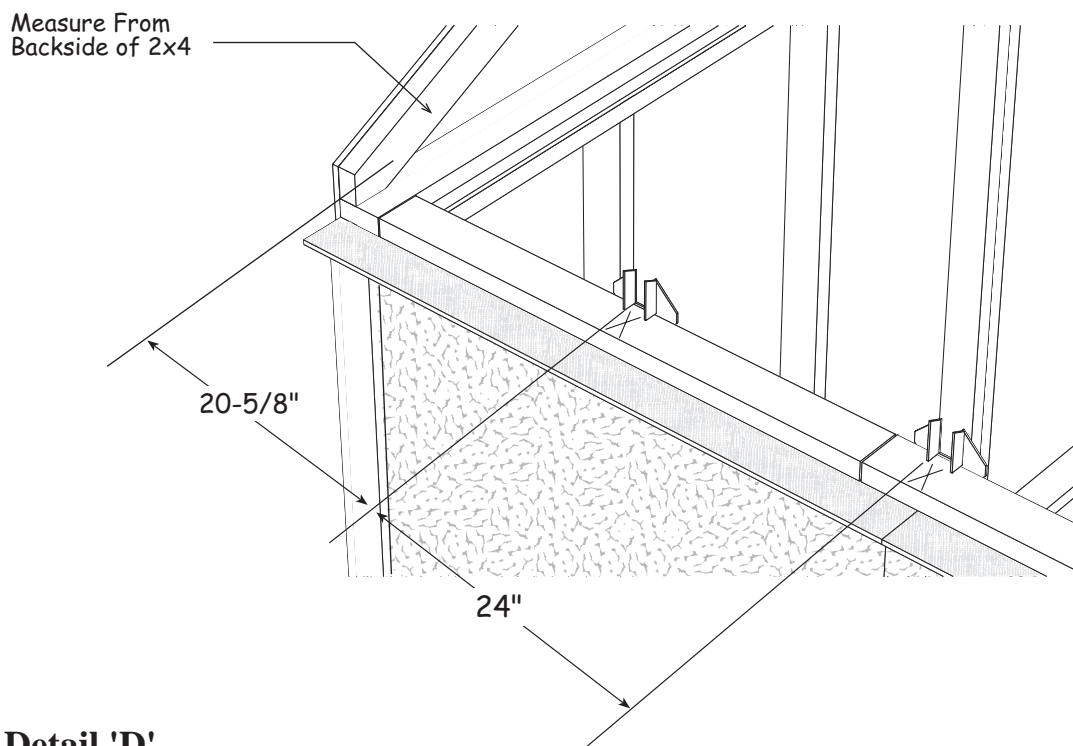
2. If used for a wall brace, remove a 72" long 2x4 and install this next to the 3' long 2x4. Cut a 3' piece to fit against opposite gable.
3. Repeat to install tie plates on the back wall.



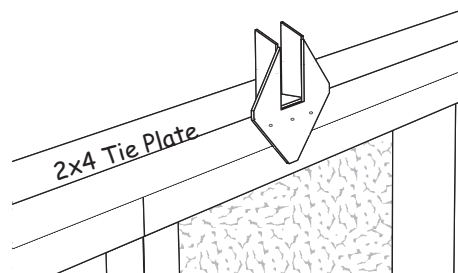
4. Install a 1x3-72" trim board centered across the top door opening and against soffit. The header siding will extend below this trim board. Use 6d galv. nails spaced 12" apart.
5. Locate (2) two 1x3-72" boards. Tack these, *with a couple nails*, flush to each side of the door opening and against bottom of upper trim.

Step 13 Layout Roof Trusses

1. Layout the truss spacing from the left sidewall of the building. Measure from the backside of the 2x4 gable frame when marking the location of the first truss. Continue 24" spacing to other gable. **Important:** When marking the opposite wall, place the 'X' mark on the same side of the line so your trusses are parallel when they are installed.
2. Install metal hangers to the tie plate with hanger nails . The opening should line up with the 'X' mark, the bottom of the opening, flush with the 2x4 tie plate. **Detail 'D'**.



Detail 'D'



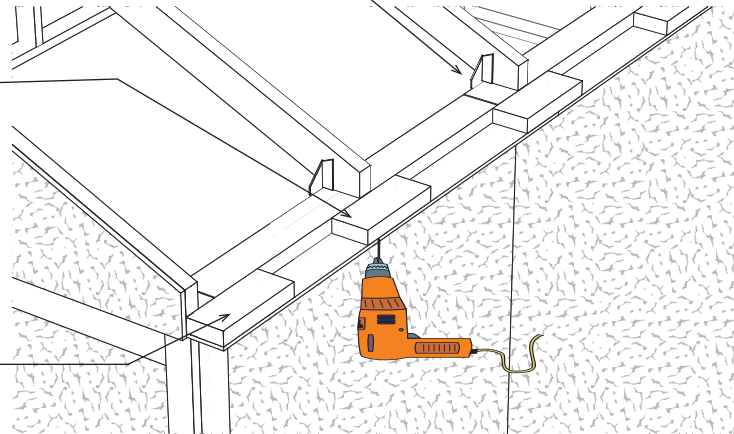
Inside of Building

Step 14 Set Roof Trusses and Soffit Blocks

1. Set roof trusses. Secure trusses to metal hangers with hanger nails.

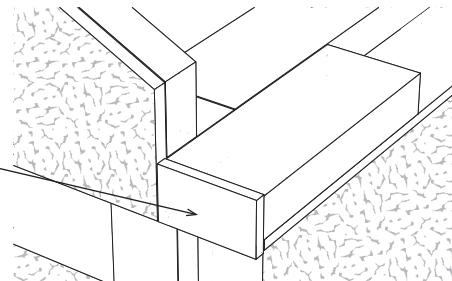
2. Install short 2x4 blocks in front of each truss. Secure 2x4 blocks to the soffit panel using (2) two 1-1/2" long exterior screws.

3. Install a 2x4 block at each end of the soffit, flush with the 2x4 gable frame.



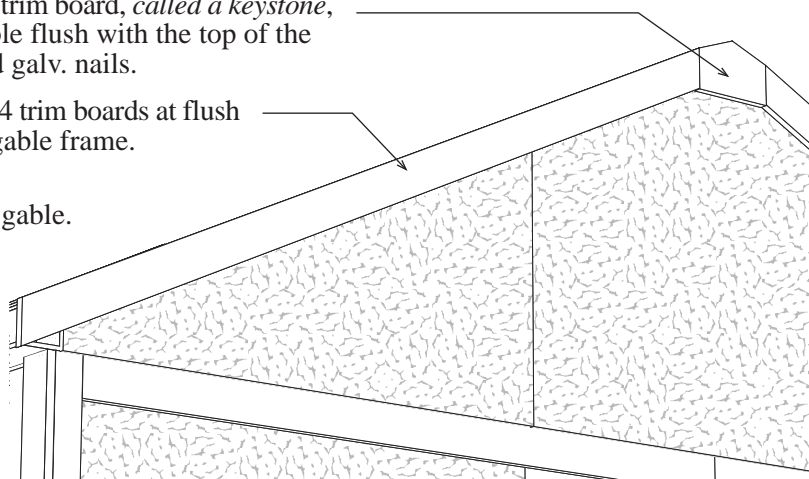
4. Install small primed siding fillers, *packed with the hardware*, over the 2x4 soffit blocks. Siding fillers will be flush with the gable siding. Use 6d galv. nails.

Siding Filler



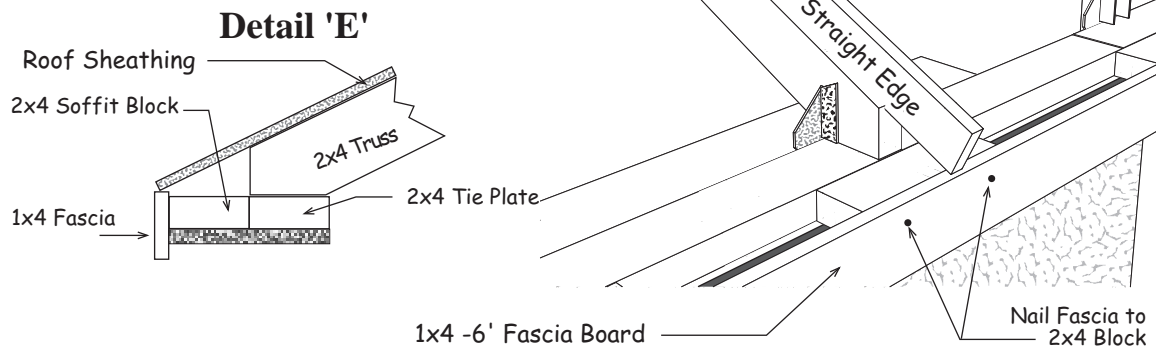
Step 15 Install Gable Trim

1. Install a 8-1/2" long trim board, *called a keystone*, at the top of the gable flush with the top of the gable frame. Use 6d galv. nails.
2. Install a 81" long 1x4 trim boards at flush with the top of the gable frame. Use 6d galv. nails.
3. Repeat on opposite gable.



Step 16 Install 1x4 Fascia and Roof Sheathing

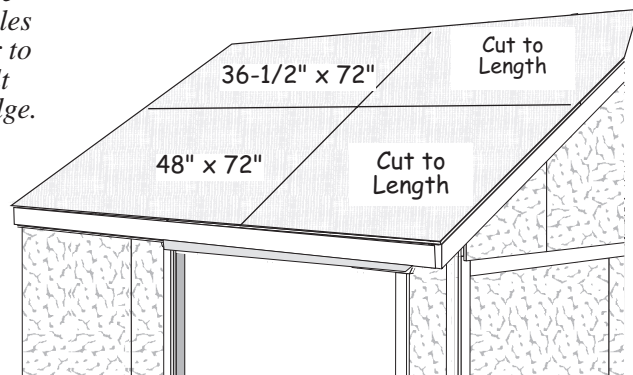
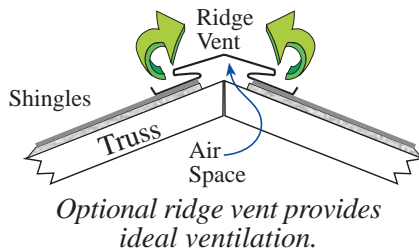
1. Starting at the front left of the building, install 1x4-6' fascia board against the left gable trim. Install the fascia so the bottom edge of the roof sheathing will rest on the edge of the 1x4. See **Detail 'E'**. Use a straight edge to align the 1x4 boards with the top of the trusses. Install fascia with 6d galv. nails
2. Select a 1x4-7' fascia board next. Cut this board to fit against right gable trim.
3. Repeat to install fascia on rear of building.



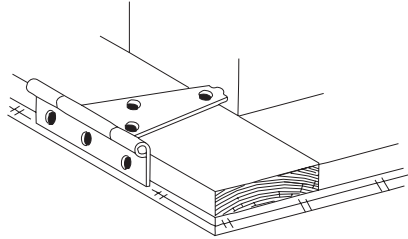
2. Make sure the trusses and gables are plumb and the roof sheathing meets at center of 3rd truss. Starting at the left end of the building, install a 48"x72" OSB roof panel flush with the 1x4 trim on the gable. See detail below. Use 6 common nails spaced 12" apart.
3. Select a 48"x83-1/2" sheet and install next. Cut this panel to be flush with right gable trim.
4. Install the top row of roof sheathing. The roof sheathing will be about 1" below the ridge to allow for optional ventilation. Cut the 36-1/2"x83-1/2" sheet to fit.
5. Repeat to on opposite side.

Install Roofing — Not Supplied in Kit

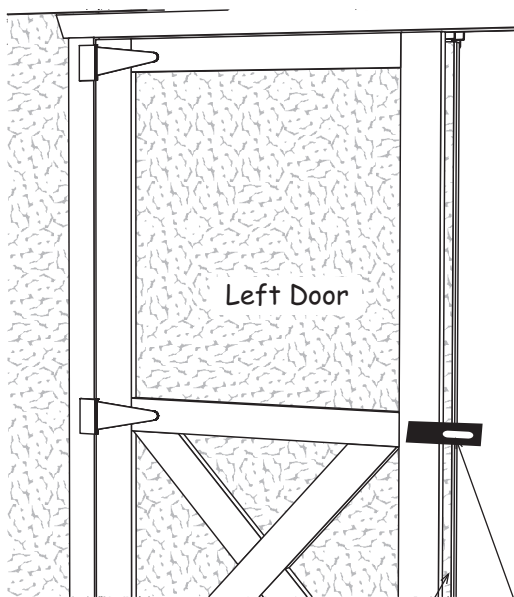
Install metal roof edging perimeter of the roof area. If you are not installing shingles at this time, you can purchase felt paper to protect the roof sheathing. Install the felt paper before you install the metal roof edge.



Step 17 Install Doors & Hardware



1. Lay the left door with the trim facing up. The siding on the left door extends past the door trim. See detail below.
2. Install 5" hinges to the left side of the door frame. To position the hinge properly, hold the rectangular plate against the frame. Use 1-1/4" black screws.
3. Install hinges to the right side of the other door.

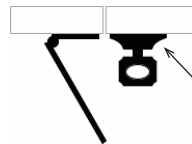


4. Before fastening the hinges to the side trim, temporarily prop the doors in the opening. Leave a space at the top and bottom of the doors and between the doors and the side trim to allow room for the doors to expand due to humidity.

If your door opening is out of square, the space around the doors will not be even. You can remove and re-position the side trim to make allowances for this. The side trim does not have to be flush with the frame of the door opening. You can move the trim in or out to make the door spacing equal.

5. Determine position of hinges and install to side trim with 2" screws.
6. Install door hasp on double doors. When properly installed the hasp will fold in half to receive locking latch and the screw heads will be covered.

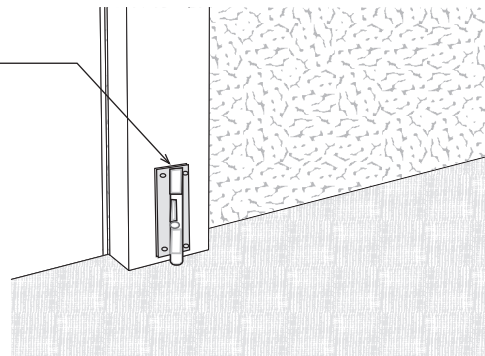
Siding Extends Past Trim



Fold Hasp to Cover Screws

Barrel Bolt on the back of left door

7. Install a barrel bolt on the lower back of the door to secure this door in place when closed. You will need to drill a hole for the round shaft to drop into.
8. Install another barrel bolt at the top of the door.



Material Packaged In Component Kit						
5	Collar Ties	2x4	82"	3	1 lb. box	10d Sinkers
14	Truss Rafters	2x4	80-1/2"	5	1 lb. box	6d Galv.
48	Wall Studs	2x4	72"	6	1 lb. box	6d Common
4	Wall Plates	2x4	68-1/2"	2	1 lb. box	Hanger Nails
2	Wall Plates	2x4	67-1/2"	50	ea. 1-1/2"	Exterior Screws
2	Wall Plates	2x4	58-1/2"	25	ea. 2-1/2"	Deck Screws
2	Wall Plates	2x4	34-3/4"	6	ea. 5"	Door Hinges
4	Gable Studs	2x4	23-1/2"	1	ea. 4-1/2"	Door Latch
10	Truss Gussets	7/16"	8" x 16"	2	ea. 6"	Barrel Bolts
7	Soffit Panels	3/8"	7" x 48"	25	ea. 2"	Hinge Screws
8	Filler Panels	3/8"	4-1/4" x 48"	25	ea. 1-1/4"	Hinge Screws
2	Fascia Boards	1x4	x 84"	6	ea. 1x4	Metal Plates
2	Fascia Boards	1x4	x 72"	10	ea. 2x4	Metal Truss Hangers
10	Siding Panels	48"	x 75-3/4"	1	ea.	Bottle Glue
2	Siding Panels	16"	x 75-3/4"	2	ea.	Plywood Gussets 3-1/2" x 32"
2	Gable Siding Panels	48"	x 40"	1	ea.	OSB Filler 3-1/4" x 67-1/4"
4	Gable Siding Panels	48"	x 28"	18	ea.	2x4 Truss Jig Blocks 6" to 8"
2	Roof Sheathing	48"	x 72"	2	ea.	1x6 Keystone 8-1/2"
2	Roof Sheathing	48"	x 83-1/2"	4	ea.	1x4 Gable Trim 81"
2	Roof Sheathing	36-1/2"	x 72"	4	ea.	1x4 Corner Trim 75-3/4"
2	Roof Sheathing	36-1/2"	x 83-1/2"	4	ea.	1x3 Corner Trim 75-3/4"
Material not used in this model				4	ea.	1x4 Wall Trim 72"
8	Boards	2x3	x 42-3/8"	3	ea.	1x3 Door Trim 72"
4	Soffit Boards	3/8"	x 7" x 48"	2	ea.	Pre-built Door 32" x 71-1/2"
				4	ea.	Gable Siding Fillers 2"x3"

Roof Shingles by Owner

Qty.	Optional Shingles
7 bdl.	Roof Shingles
6 pcs.	Roof 'drip' Edge 10'